

WHAT IS CLAIMED IS:

1. A sound absorbing structure utilizing the vibration of a plate-like body, comprising:

the plate-like body;

a vibration damping member provided on at least one surface of the plate-like body; and

an installation portion provided at an opposite side of the vibration damping member against the plate-like body.

2. A sound absorbing structure utilizing the vibration of a plate-like body, comprising:

the plate-like body;

vibration damping members provided on the opposite surfaces of the plate-like body; and

an installation portion provided at an opposite side of at least one vibration damping member against the plate-like body.

3. A sound absorbing structure utilizing the vibration of a plate-like body, comprising:

the plate-like body;

an installation portion provided on at least one surface of the plate-like body; and

a vibration damping member provided on an opposite surface of the plate-like body against the installation portion and/or on the same surface of the plate-like body as the installation portion.

4. A sound absorbing structure utilizing the vibration of a plate-like body, comprising:

the plate-like body;
an installation portion provided on at least one surface of the plate-like body;

a vibration damping member provided on an opposite surface of the plate-like body against the installation portion; and

a constraining member provided at an opposite side of the vibration damping member against the plate-like body.

5. A sound absorbing structure according to any one of claims 1 to 4, wherein the vibration damping member is made of an elastic body or a viscoelastic body.

6. A sound absorbing structure according to any one of claims 1 to 4, wherein the vibration damping member is sheet-shaped.

7. A sound absorbing structure according to any one of claims 1 to 4, wherein the vibration damping member is line-shaped or strip-shaped.

8. A sound absorbing structure according to claim 1, wherein the vibration damping member is made of an elastic body or a viscoelastic body and is lattice-shaped.

9. A sound absorbing structure according to claim 2, wherein the vibration damping members are made of elastic bodies or viscoelastic bodies and at least one of the vibration damping members provided on the opposite surfaces of the plate-like body is lattice-shaped.

10. A sound absorbing structure according to claim 8, wherein the installation portion is lattice-shaped and has the same shape as the lattice-shaped vibration damping member.

11. A sound absorbing structure according to claim 8, wherein the lattice of the lattice-shaped vibration damping member includes a plurality of square and/or rectangular shapes having different sizes.

12. A sound absorbing structure according to claim 9, wherein the vibration damping members provided on the opposite surfaces of the plate-like body are lattice-shaped.

13. A sound absorbing structure according to claim 9, wherein the installation portion is lattice-shaped and has the same shape as the lattice-shaped vibration damping member.

14. A sound absorbing structure according to claim 9, wherein the lattice of the lattice-shaped vibration damping

member includes a plurality of square and/or rectangular shapes having different sizes.

15. A sound absorbing structure according to any one of claims 1 to 4, wherein the plate-like body includes a plurality of through holes.

16. A sound absorbing structure according to claim 15, wherein the plate-like body and the vibration damping member include a plurality of through holes.

17. A sound absorbing structure according to any one of claims 1 to 4, wherein one or a plurality of other plate-like body(s) is/are arranged at an opposite side of the plate-like body against the installation portion.

18. A sound absorbing structure according to claim 17, wherein an elastic body or a viscoelastic body is arranged between the plurality of other plate-like bodies.

19. A sound absorbing structure according to claim 1 or 2, wherein the installation portion is another plate-like body provided with projections.

20. A sound absorbing structure according to claim 3 or 4, wherein the plate-like body and a plurality of installation

portions are integrally formed, and the vibration damping members are arranged on the plate-like body between the plurality of installation portions.